Third-Party Opportunism and the (In)Efficiency of Public Contracts

Marian Moszoro[1]   Pablo Spiller[2]

[1]Finance Department and Public-Private Sector Research Center
IESE Business School, Barcelona

[2]Haas School of Business, University of California, Berkeley
Columbia University, and NBER

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The "story" about TPO

Theoretical model: some interesting insights

Cases where TPO is explanatory—ideas for empiricists

Characteristics of Public Contracts

- inefficient
- low quality
- delays
- expensive
- corruption, favoritism
- bureaucratic, red tape

- politics
- intricate, convoluted
- scrutiny, regulation
- controls, inspections
- protests, courts
- ...

- ... third parties...

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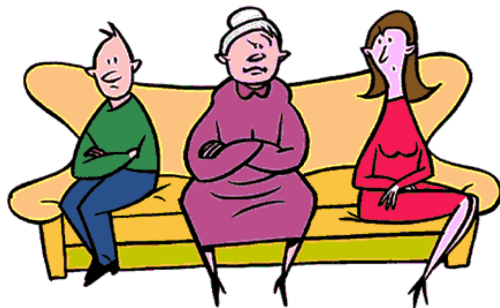Figure: Monster-in-Law

- ... third parties...

Figure: Monster-in-Law

... not necessarily interested in the success of the relationship
(political opponents, excluded bidders, and interest groups)

What is the impact of **third parties** in public procurement and acquisition?

Findings

- Third-party opportunism (TPO) as **key hazard** of public transactions
- Specificity and rigidity in public contracting are a **political risk adaptation** by public agents
    - Public agents **limit** the risk of third parties' challenges through formalities and rigidities
    - ... **externalizing** the associated costs to the public at large
- Scrutiny increases public contracting efficiency in costly litigation environments, concentrated (politically) contestable markets, and with upwardly biased beliefs about benefits of challenge

Preliminaries:

- Public agent's perspective
- Simple short-term contract for standard good/service
- Ignore sunk costs to abstract from governmental opportunism

Four agents explicitly and implicitly involved in public contracting:

1. Incumbent public agent
2. Private contractor
3. Third-party challengers, i.e., political opponents to the incumbent public agent, competitors to the contractor, and interest groups ("anti-arbitrators")
4. Public at large, i.e., voters and courts

Signaling Process: Hazards into Rigidity—Timing

Public agent:

1. Receives project features and budget P^{bud}
2. Perceives threat of potential TPO challenges
3. Minimizes political risks by contract specificity and rigidity R^*

$\left.\right\} t_0$

Private contractor:

4. Observes contract specificity and rigidity R^*
5. Less adaptability equals higher contracting and implementation costs, and hence higher final price P^{min}

$\left.\right\} t_1$

Third parties:

6. Privately perceive benefits from potential challenge
7. Contract features R^* affect third parties' strategies, thereby affecting political outcomes

$\left.\right\} t_2$

Modeling Hazards, Rigidity, and Pricing—Cheat Sheet

Variable	Description	$f(R)$	In Paper
τ	Likelihood of success of TPO challenge	↘	Assumption 1
c	Litigation costs	↗	Assumption 2
K	Private K_{pr} and public K_{pu} adaptation costs to TPO: *ex ante* contracting and *ex post* penalties, implementation, and enforcement costs (time, lawyers, documentation, and control)	↗	Assumption 3
ρ	Likelihood of TPO challenge	↘	Proposition 1
$\mathbb{E}(T)$	$= T_0 \rho \tau$ Expected political costs of the loss of office, reputation, and support	↘	Definition 1 & Proposition 2

Nature of the Game

We define the following objective functions for the agents:

$$
\begin{cases}
\text{Incumbent public agent:} & \underset{R}{\text{minimize}} & \mathbb{E}[T(R) \mid \tau] + K(P, R) \\
& \text{subject to} & K = K_{pr}(R) + K_{pu}(P, R), P^{bud} \geq K_{pr} \\
\text{Private contractor:} & \underset{P}{\text{maximize}} & (P - K_{pr}) \mid R \\
& \text{subject to} & P^{bud} \geq P \geq K_{pr} \\
\text{Third-party challengers:} & \underset{q \in \{0,1\}}{\text{maximize}} & q[\widetilde{T_0}\zeta\tau - c] \mid R
\end{cases}
$$

where $\zeta \in (0,1]$ is the political (market) concentration and $\widetilde{T} = \widetilde{T_0}\zeta\tau$ reflects opportunistic third party's beliefs about her potential internalization of the incumbent public agent's costs

Existence of Sequential Equilibrium

Given T_0, $\widetilde{T_0}$, τ, c, ζ, and K, the equilibrium $\{q^*, \rho^*, R^*, P^*\}$ is such that:

(a) $R^* = \arg\min_R [T_0 \rho(R) \tau(R) + K(P, R)]$

(b) $\rho^* \equiv \mathbb{E}(q^* \mid R^*) \equiv \Pr[\widetilde{T_0} \zeta \tau(R^*) > c(R^*)]$

(c) $P^* \in [P^{min}, P^{bud}] = K_{pr} \mid R^*$

This solution can be achieved intuitively backwards. Starting from R^*, any deviation from equilibrium makes the public agent worse off:

(a) If $R < R^*$, then $\tau(R) > \tau(R^*)$, $c(R) < c(R^*)$, therefore $\rho > \rho^*$ and $\mathbb{E}[T(R)] - \mathbb{E}[T(R^*)] > K(P^*, R^*) - K(P, R)$, i.e., $\mathbb{E}(T)$ increase offsets gains in K decrease

(b) If $R > R^*$, then $\mathbb{E}[T(R^*)] - \mathbb{E}[T(R)] < K(P, R) - K(P^*, R^*)$, i.e., K increase outmatches gains in $\mathbb{E}(T)$ decrease
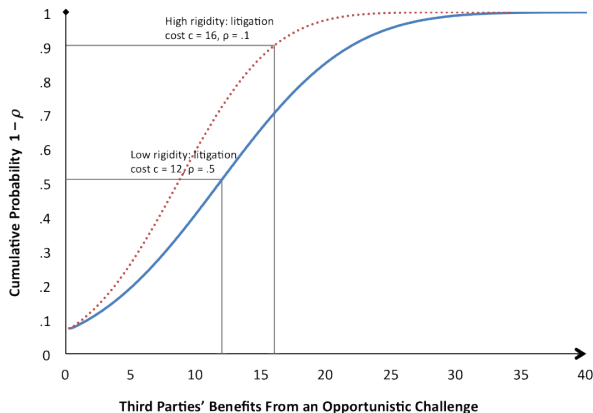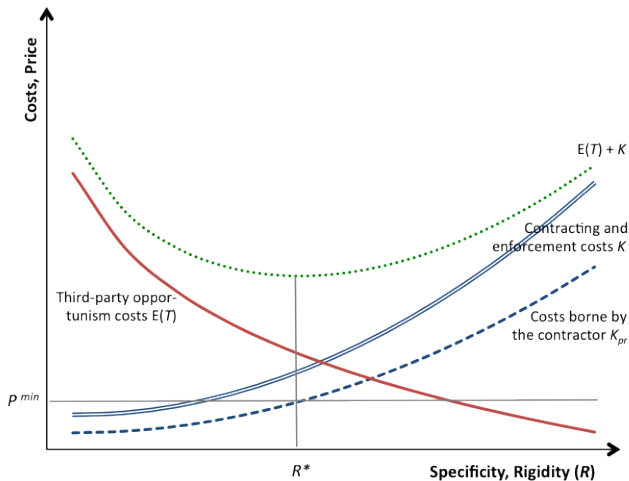
Institutional implications of
third-party opportunism
in public procurement and acquisition

Third Parties' Benefits From an Opportunistic Challenge

Cumulative Probability $1 - \rho$

Upwardly biased third parties' expectations $\tilde{T}_0^*$

High scrutiny reduces challenges in high litigation cost environments

Downwardly biased third parties' expectations $\tilde{T}_0$

High scrutiny increases challenges in low litigation cost environments

Third Parties' Benefits From an Opportunistic Challenge
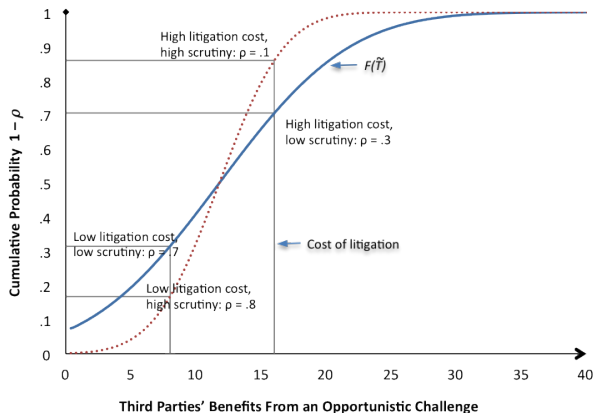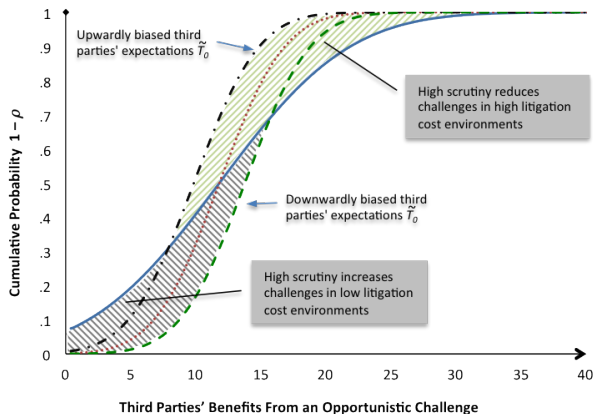
Scrutiny: A Two-Sided Sword
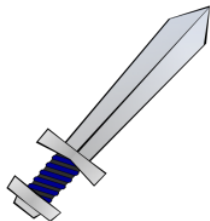
- On the one hand, better informed third parties due to scrutiny may increase or decrease the likelihood of TPO, depending on calibration and update of beliefs
- On the other hand, scrutiny increases the level of internalization of adaptation costs by the public agent

$\Rightarrow$ It is equivocal whether open information policies (as the case of California or Berlin) lead to more efficient public contracts

Proposition

Assuming away administrative scrutiny costs, an increase in scrutiny reduces contract rigidity R^* only if the internalization of adaptation costs effect is larger than the increase of political costs due to calibration and update of beliefs by opportunistic third parties
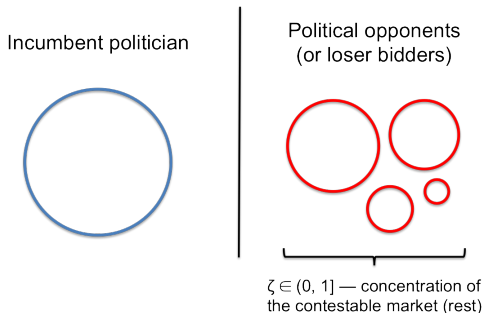
Political and Market Structure

- Recall: TPO challengers $\max_{q \in \{0,1\}} q[\widetilde{T_0}\zeta\tau - c] \mid R$, i.e., $q = 1$ iff $\widetilde{T_0}\zeta\tau > c$

Incumbent politician

Political opponents
(or loser bidders)

$\zeta \in (0, 1]$ — concentration of
the contestable market (rest)

- As $\zeta \approx 0$ (atomized political opposition), there will be no TPO challenges (as in a mono-partisan or autarky system)

- Analogically, ζ may describe the bidders' market structure: $\zeta = 1$ for symmetrical Bertrand duopolies, $\zeta < 1$ for oligopolies, and $\zeta \approx 0$ for perfect competition or monopoly

- Bureaucracies
- Fixed-Price vs. Cost-Plus Contracts
- Public-Private Partnerships
- External Consultants and Certification of Contractors
- Efficient Small Communities and Authoritarian Regimes
- Privatization of Government-Owned Companies

Bureaucracies

- Specific **employment procedures** in civil service
- Aimed at avoiding challenges of **favoritism**, but nonetheless result in **lower productivity** (analogical to higher P)
  - UK 1997-2006: public sector productivity fell by 3.4%, compared with a rise of 28% in the private sector)
  - Argentine bureaucracy = combination of constitutional protections of civil servants, relatively low wages, and low accountability to "short-lived" political public agents. Because political public agents do not last long, TPO is not a prevalent hazard for them → "parallel bureaucracy"

Fixed-Price vs. Cost-Plus Contracts

- In theory, fixed-price better when adverse selection < moral hazard
    - Fixed-price: **standardized goods**, low informational asymmetry
    - Cost-plus: **complex projects**, i.e., technological uncertainties > inefficiencies from incomplete monitoring
- In practice, cost-plus subject to more TP challenges
    - GAO 2008 on defense acquisition: **cost overruns** of 26% ($295B)
    - More adaptable, but also **abusable** ("blank check")
    - US Presidential Memorandum of 3/4/2009: *"there shall be a preference for fixed-price type contracts."*
- Under TPO, **fixed-price preferred** where cost-plus more efficient
    - Fixed-price does not provide adaptable risk-sharing mechanisms
    - Costs underestimation in 9/10 of transport projects
    - Event study—Poland: 29% of contracts to lowest price bidder in 2004; 91% in 2010: EU increased frequency and depth of controls

Public-Private Partnerships

- PPPs: *ex ante* **flexibility** in contracting to gain efficiency
- *Ex ante* flexibility makes PPPs **vulnerable** to TPO (higher ρ)
- Response: KPIs as *ex post* **quality control** and signal that service remains publicly accountable
    - Australia (2001): the PPPs inferior—more expensive or lower quality of services—than the standard model of public procurement
    - Response: formal procedures for *ex ante* assessment using the Public Sector Comparator (PSC) and Value-for-Money (VfM), i.e., more contractual *ex ante* specificity and costs
    - New Zealand (2009): "there is little reliable empirical evidence about the costs and benefits of PPPs" and that "the advantages of PPPs must be weighed against the *contractual complexities and rigidities* they entail"
- **Trade-off** between gains from better private management and higher costs of compliancy with *ex ante* contractual complexities and *ex post* KPIs

External Consultants and Certification of Contractors

- Independent consultants (e.g., MLAs, advisers) enrolled to increase **objectivity** of processes and lower ρ
    - External consultants in Warsaw in PPP pre-procurement phase to "safeguard the city authorities against complaints and criticism by subsequent administrations"
    - Cost: PLN 10M ($3.2M), i.e., 1.2% of the estimated budget
- Certain public tenders require **certification** of contractors
    - "Canal Safety and Drainage Improvements Project" (Contra Costa Water District Construction Department, 2010) objected: the apparent low bidder included a non-certified subcontractor and could bid a lower price ($756K compared with loser's $852K, i.e., 11% cheaper)
    - Besides, certificates may add inefficient market concentration ($\uparrow P$)
- **Trade-off** between lower TPO hazards and additional adaptation costs K of external consultants and certification

Efficient Small Communities and Authoritarian Regimes

(a) Efficient small governments: low
    value of contracts $\widetilde{T_0} \to$ low ρ

(b) Authoritarian regimes: low ρ, τ

$\left.\begin{array}{l} \\ \\ \\ \end{array}\right\}$ discretion = **inexpensive and swift contracting** of public works

- E.g., rapid development of infrastructure in Paraguay during the Stroessner's regime: *"During the 1960s and the 1970s, Paraguay built roads, silos and, most importantly, the biggest dam in the world, the Itaipú Hydro-electric Dam, built jointly with Brazil. (...) During the 1970s, Paraguay had one of the highest growth rates in the region, with real GDP increasing at 8 percent over the decade"* (Molinas et al., 2006)

- ... but **corruption costs**: that ability to move policy decisively also funneled most of the benefits to a few contractors—companies owned by the dictator's followers

Privatization of Government-Owned Companies

- Privatizations subject to **clauses of commitment** (high R^*) from acquirer concerning labor retention, modernization processes, future investments, and other "social sensitive" issues

- Such privatization clauses limit, however, the company's governance and, consequently, **lower its value**

- If the revenue from privatization is low, the public agent can be accused of collusion or "selling off the family silver"

- Corollary: **trade-off** between sell-off from a government's valuation standpoint and rigid from a private managerial perspective

Immunity for Public Agents

- Immunity from legal prosecution = a way to **insulate** public agents from threats of media smear campaigns, courts, and legal harassment

- Dal Bo et al. (2006) show that, by limiting the potential for pressure from interested groups, immunity may indirectly lead to an **increase in the quality** of public officials, and hence better public policies

- Congruently, from a TPO theory perspective, immunity lowers τ and thus ρ because the public agent will not have to prove probity and, consequently, provides flexibility that leads to an **increase in the efficiency** of public agents

- E.g., Mario Monti appointed *Senatore a vita* a day before becoming Italy's PM

Concluding Remarks

TPO theory combines **political hazards** and **adaptation costs** to explain apparent inefficiencies in public contracts

- High *ex ante* payment volatility or *ex post* flexibility in implementation may trigger drawbacks, leading to contract failure or **costly adaptation** by the public official, whether in terms of time or political career
- High specificity and rigidity, and high prices of public contracts is a **sequential equilibrium**: public agents minimize political third-party costs with contract specificity and rigidity, which induce high contracting prices
- True inefficiency in public contracting should pass Williamson's (1999) **remediableness test**